

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



REC'D 10 JAN 2005

WIPO PCT

Applicant's or agent's file reference XA1508	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 03/05462	International filing date (day/month/year) 15.12.2003	Priority date (day/month/year) 18.12.2002
International Patent Classification (IPC) or both national classification and IPC B21D26/02		
Applicant BAE SYSTEMS PLC		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:
- I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 25.06.2004	Date of completion of this report 11.01.2005
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Ris, M Telephone No. +31 70 340-2363 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB 03/05462

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-25 as originally filed

Claims, Numbers

1-39 as originally filed

Drawings, Sheets

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB 03/05462**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	5-20,24,28,29,31,32,33,35-39
	No: Claims	1-4,21-23,25-27,30,34
Inventive step (IS)	Yes: Claims	6-20,35-39
	No: Claims	1-5,21-34
Industrial applicability (IA)	Yes: Claims	1-39
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1). The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-4 is not new in the sense of Article 33(2) PCT and not inventive in the sense of Article 33(3) PCT.

The document US-A-6053026 (D1) discloses an apparatus for modifying the shape of an aircraft component (column 1, lines 9-11). The component is forced against a reconfigurable shaped surface (see figures 1A, 1B and 2). The component is supported by a pliable intermediate member (column 3, line 53 - column 4, line 3) which conforms to the shape of the mould.

D1 discloses all the features of claims 1 - 4. The subject-matter of claims 1-4 is thus not new. As the subject-matter of claims 1-4 is not new, it is not inventive as well.

2). The application of the additional feature of claim 5 is considered obvious. The subject-matter of claim 5 thus does not involve an inventive step.

3). The combination of the features of dependent claim 6 is neither known from, nor rendered obvious by, the available prior art. None of the prior art documents cited in the search report show elements separated by gaps whereby the intermediate member shows a stiffness such that it does not deform at the place of a gap.

4). Claims 7 - 20 are dependent on claim 6 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

5). The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 21 - 23, 25 - 27, 30 and 34 is not new in the sense of Article 33(2) PCT and not inventive in the sense of Article 33(3) PCT.

6). The document US-A-6264771 (D2) discloses an apparatus and method for modifying the shape of an aircraft component (see column 1, lines 6 - 8) by creep forming, wherein the component is forced against a shaped surface by an air pressure difference provided by suction (see column 2, lines 30 - 34) via a bag (16).

D2 discloses all the features of claims 21 - 23, 25 - 27, 30 and 34. The subject-matter

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB 03/05462

of claims 21 - 23, 25 - 27, 30 and 34 is thus not new. As the subject-matter of claims 21 - 23, 25 - 27, 30 and 34 is not new, it is not inventive as well.

7). The application of the additional feature of claim 24 is considered obvious. The subject-matter of claim 24 thus does not involve an inventive step.

8). The application of the additional features of claims 28, 29, 31, 32 and 33 is considered obvious. The subject-matter of these claims thus does not involve an inventive step.

Claim 37, as far as referring to claims 27 - 34, is dependent on claim 27. Claim 37, as far as referring to claims 27 - 34, is not new as D2 also discloses creep forming.

9). The document D2 is regarded as being the closest prior art to the subject-matter of claim 35, and shows method for modifying the shape of an aircraft component (see column 1, lines 6 - 8) by creep forming, wherein the component is forced against a shaped surface by an air pressure difference provided by suction (see column 2, lines 30 - 34) via a bag (16).

The subject-matter of claim 35 differs from this known method in that the bag encompasses both the aircraft component and at least a portion of the support structure on the opposite side of the shaped surface to the aircraft component.

The subject-matter of claim 35 is thus new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as to create a more flexible shaping method with regard to mould use.

The solution to this problem proposed in claim 35 of the present application is considered as involving an inventive step (Article 33(3) PCT). The use of a bag which encompasses (partly) the mould opens the possibility to use moulds with open structure.

Claim 36 is dependent on claim 35 and as such also meets the requirements of the PCT with respect to novelty and inventive step.

Claim 37, as far as referring to claims 35 and 36, is dependent on claim claims 35 and 36. Claim 37, as far as referring to claims 35 and 36, therefore also meets the requirements of the PCT with respect to novelty and inventive step.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB 03/05462

10). The apparatus of any of claims 1 - 5 is not new or inventive. The use of the apparatus in creep forming is not considered inventive. Thus claim 37, as far as referring to the apparatus of any of claims 1 - 5, does not fulfil the requirements of Article 33(3) PCT.

11). D1 produces aircraft components. Claims 38 and 39, as far as referring to any of claims 1 - 5 is therefore not new, resp. inventive.

D2 produces aircraft components. Claims 38 and 39, as far as referring to any of claims 27 - 34 is therefore not new, resp. inventive.

The aircraft component formed using the method of claims 35 or 36 is new and inventive as the method of claim 35 or 36 is new and inventive. Thus claim 38 and 39, as far as referring to claims 35 and 36 is new and inventive.